AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

1. (currently amended): A method of reducing the size of a block resonator filter, comprising the following steps:

increasing the number of poles per block; and

~~filling~~ forming said block with dielectric material.

2. (original): The method according to claim 1, further comprising the step of coating said block with a conductive layer.

3. (original): The method according to claim 1, wherein said dielectric is low loss and has a high dielectric constant.

4. (original): The method according to claim 1, wherein said step of increasing the number of poles per block comprises the following steps:

exciting a plurality of modes; and

coupling said modes.

5. (original): The method according to claim 4, wherein said modes are mutually orthogonal.

6. (original): The method according to claim 4, wherein said step of coupling said modes comprises cutting at least one corner of said block.

7. (original): The method according to claim 4, wherein said step of exciting a plurality of modes, comprises using a probe to radiate energy into and out of said block resonator filter.

8. (original): The method according to claim 4, wherein said step of exciting a plurality of modes, comprises:

forming a hole in said block resonator filter;

plating an interior of said hole; and

fixing a connection from said plated hole to an external circuit.

9. (original): The method according to claim 6, wherein said at least one corner cut is oriented along a Y axis.

10. (original): The method according to claim 6, wherein said cutting at least one corner further comprises cutting along a Y axis, cutting along a Z axis and cutting along a X axis.

11. (original): The method according to claim 7, wherein said step of coupling said modes comprises cutting at least one corner of said block.

12. (original): The method according to claim 8, wherein said step of coupling said modes comprises cutting at least one corner of said block.

13. (original): The method according to claim 11, wherein said cutting at least one corner further comprises cutting along a Y axis, cutting along a Z axis and cutting along a X axis.

14. (original): The method according to claim 12, wherein said cutting at least one corner further comprises cutting along a Y axis, cutting along a Z axis and cutting along a X axis.

15. (original): A method of increasing a number of poles in a filter, comprising the following steps:

exciting a plurality of modes; and

coupling said modes.

16. (currently amended): The method according to claim 15, wherein said step of exciting a plurality of modes, comprises using a probe to radiate energy into and out of ~~said~~ a block resonator filter.

17. (currently amended): The method according to claim 15, wherein said step of exciting a plurality of modes, comprises:

forming a hole in ~~said~~ a block resonator filter;

plating an interior of said hole, and fixing a connection from said plated hole to an external circuit.

18. (original): The method according to claim 15, wherein said modes are mutually orthogonal.

19. (currently amended): The method according to claim 18, wherein said step of coupling said modes comprises cutting at least one corner of ~~said~~ a block resonator filter.

20. (original): The method according to claim 19, wherein said at least one corner cut is oriented along a Y axis.

21. (original): The method according to claim 19, wherein said at least one corner cut is oriented along a Z axis.

22. (original): The method according to claim 19, wherein said at least one corner cut is oriented along a X axis.

23. (original): The method according to claim 19, wherein said step of exciting a plurality of modes, comprises:

forming a hole in said block resonator filter;

plating an interior of said hole; and

fixing a connection from said plated hole to an external circuit.

24. (original): A filter assembly, comprising:

a block resonator filter;

a mask filter operably connected to said block resonator filter, wherein a passband of said mask filter is wider than a passband of said block resonator filter; and

a low-pass filter operably connected to said block resonator filter, wherein said low-pass filter rejects frequencies greater than the passband of said block resonator filter.

25. (original): The filter assembly according to claim 24, wherein said block resonator filter comprises more than one resonator per block.

26. (original): The filter assembly according to claim 24, wherein said block resonator filter is filled with dielectric.

27. (original): The filter assembly according to claim 24, wherein said block resonator filter is coated with a conductive layer.

28. (original): The filter assembly according to claim 24, wherein said block resonator filter comprises at least one corner cut.

29. (original): The filter assembly according to claim 24, further comprising an input probe operably coupled to said block resonator filter, wherein input power is coupled into said block resonator filter by said input probe.

30. (original): The filter assembly according to claim 24, further comprising:

a plated hole in said block resonator filter; and

a connection from said plated hole to an external circuit.

31. (original): The filter assembly according to claim 24, wherein said filter assembly is part of a communication system.

32. (original): The filter assembly according to claim method according to claim 26, wherein said dielectric is low loss and has a high dielectric constant.

33. (original): The filter assembly according to claim 28, wherein said at least one corner cut is oriented along a Y axis.

34. (original): The block resonator filter according to claim 28, wherein said at least one corner cut comprises:

a corner cut oriented along a Y axis;

a corner cut oriented along a X axis; and

a corner cut oriented along a Z axis.

35. (original): The block resonator filter according to claim 30, further comprising:

a corner cut oriented along a Y axis;

a corner cut oriented along a X axis; and

a corner cut oriented along a Z axis.

36. (original): A block resonator filter, comprising:

a plurality of resonators; and

at least one corner cut.

37. (original): The block resonator filter according to claim 36, wherein said block resonator filter comprises more than one resonator per block.

38. (original): The block resonator filter according to claim 36, wherein said block resonator filter is filled with dielectric.

39. (original): The block resonator filter according to claim 36, wherein said block resonator filter is coated with a conductive layer.

40. (original): The block resonator filter according to claim 36, further comprising an input probe operably coupled to said block resonator filter, wherein input power is coupled into said block resonator filter by said input probe.

41. (original): The block resonator filter according to claim 36, further comprising:

a plated hole in said block resonator filter; and

a connection from said plated hole to an external circuit.

42. (original): The block resonator filter according to claim 36, wherein said at least one corner cut is oriented along a Z axis.

43. (original): The block resonator filter according to claim 36, wherein said at least one corner cut comprises:

a corner cut oriented along a Y axis;

a corner cut oriented along a X axis; and

a corner cut oriented along a Z axis.

44. (original): The block resonator filter according to claim 38, wherein said dielectric is low loss and has a high dielectric constant.

45. (original): The block resonator filter according to claim 36, further comprising:

a second block resonator filter; and

a waveguide, whereby said waveguide links a first window in said block resonator with a second window in said second block resonator filter together.